

Miscellaneous

Now for some miscellaneous data which doesn't directly relate to toggles, but might be useful to someone:

- State count per layer and transition count don't seem to matter much (which might be why AnyState is so cheap)
 - The only time where this isn't true is if there are many bool transitions out from a single state (many here meaning 1000 for 1 ms). Float/Int seems to not have this added overhead
- Using empty layers on humanoid rigs, using non-humanoid rigs and using no avatar all seem to cut frame time per layer by about 50% compared to the two state setup
- Masking seems to have little to no effect on frame time
- Using sub-state machines seems to have little to no effect on frame time
- Nesting blendtrees for clarity seems to have little to no effect on frame time
- For Direct Blend Trees, WD off seems to not change frame times by much
- For layer toggles, WD off seems to increase frame time by around 50%
- Parameters on the local avatar seem to cost 1.5 ms per 1000, but this cost doesn't apply to remote avatars

Since face tracking takes up many layers, I wanted to do a comparison between a normal VRCFT controller, and a FX controller generated by Razgriz's [VRCFTGenerator](#) (which packs the layers into Blend Trees).

I won't bore you with the graphs, since they are just a straight line, but as for the data (this is with 37 face tracking parameters):

- VRCFT: 0.1733 ms per controller
- VRCFTGenerator: 0.066 ms per controller, a 62% decrease over the non Blend Tree version.

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